

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method to be performed by a UE (user equipment), comprising:
detecting downlink signals of an active cell in which said UE is camping and adjacent cells to said active cell;

judging whether there exists a suitable cell whose link performance is a predefined value higher than that of said active cell for both [[the]] said UE and an another UE, according to [[the]] said detecting result;

sending a detection report message to a network system to start a judging procedure of said network system if there exists said suitable cell, and said judging procedure deciding whether said UE and [[the]] said another UE in P2P (peer to peer) communication can handover into said suitable cell to continue communication in P2P communication mode,

wherein said detection report message comprises a first predefined threshold relating to a lower limit value at which a link satisfies a quality of service requirement and a second threshold relating to a condition in which an adjacent cell may be used as a candidate cell, and wherein said UE and said another UE transmit a detected candidate cell to said network system and said network system determines if a common candidate cell exists in said two candidate cell sets, and upon detection of a common candidate cell, said network system instructs said UE and said another UE to perform a handover.

2. (Previously Presented) The method of claim 1, wherein said judging includes:

judging whether there exist candidate cells whose link performance can meet the requirement for communication quality in said adjacent cells, according to the result of detecting downlink signals;

judging whether there exists said suitable cell in the candidate cells if there exist the candidate cells.
3. (Previously Presented) The method in claim 2, further comprising:

sending a report message about candidate cells to said network system to report said candidate cells to said network system.
4. (Previously Presented) The method in claim 1, further comprising:

receiving a cell handover command from said network system;

establishing a P2P connection with said another UE in said suitable cell.
5. (Previously Presented) The method in claim 4, further comprising:

releasing the P2P connection in said active cell;

sending a message for completing cell handover to said network system.

6. (Previously Presented) The method in claim 1, further comprising:
- receiving a detection control message from said network system;
 - sending a detection report message about the link performance of said active cell to said network system, according to the detection control message.

7. (Currently Amended) A method to be performed by a network system, for a first and a second user equipment (UE) in P2P (peer to peer) communication mode to perform cell handover, comprising:

receiving a detection report message from one of said first and second UEs, indicating that said one UE detects there exists a suitable cell in adjacent cells of an active cell, where a link performance of said suitable cell is a predefined value higher than that of said active cell; and starting a judging procedure to decide whether said first and second UEs can handover into said suitable cell and continue traffic communication between [[the]] said first and second UE using a P2P communication mode,

wherein said detection report message comprises a first predefined threshold relating to a lower limit value at which a link satisfies a quality of service requirement and a second threshold relating to a condition in which an adjacent cell may be used as a candidate cell, and wherein said UE and said another UE transmit a detected candidate cell to said network system and said network system determines if a common candidate cell exists in said two candidate cell sets, and upon detection of a common candidate cell, said network system instructs said UE and said another UE to perform a handover.

8. (Previously Presented) The method in claim 7, further comprising:

judging whether a link performance of another of said first and second UEs can meet a requirement for communication quality in said suitable cell.

9. (Previously Presented) The method in claim 8, further comprising:
- establishing a signaling link between said first and second UEs if the requirement for communication quality is met;
 - sending a cell handover command to said first and second UEs so that said first and second UEs can establish P2P connection in said suitable cell.
10. (Previously Presented) The method in claim 8, further comprising:
- checking the link performance of said another UE in said active cell if the requirement for communication quality cannot be met;
 - judging whether the link performance of said first and second UEs in said active cell can meet the requirement for communication quality;
 - sending a command for maintaining P2P communication to said first and second UEs so that said first and second UEs can continue P2P communication in said active cell if the link performance of said first and second UEs in said active cell both can meet the requirement for communication quality.
11. (Previously Presented) The method in claim 10, further comprising:
- sending a command for switching to conventional communication mode to said first and second UEs so that said first and second UEs can switch to conventional mode from P2P mode if the link performance of at least one of said first and second UEs in said active cell cannot meet the requirement for communication quality.

12. (Previously Presented) The method in claim 10, wherein step includes:

 sending a detection control message to said another UE, to request said another UE to send detection report about the link performance of said active cell;

 receiving said detection report from said another UE;

 checking the link performance of said another UE in said active cell according to said detection report.

13. (Previously Presented) The method in claim 7, further comprising:

 receiving a report message about the candidate cells to any UE of said first and second UEs, the report message indicating that said one UE detects the link performance of an adjacent cell of said active cell can meet the requirement for communication quality;

 marking each candidate cell of said one UE according to the report message.

14. (Currently Amended) A UE (user equipment), comprising:

a detecting unit, for detecting downlink signals of said UE in an active cell and adjacent cells to the active cell; a judging unit, for judging whether there exists a suitable cell whose link performance is a predefined value higher than that of said active cell, according to the detection result; and

a sending unit, for sending a detection report message to a network system to start a judging procedure of said network system when there exists said suitable cell, wherein said judging procedure decides whether said UE and another UE in P2P (peer to peer) communication can perform a handover into said suitable cell while maintaining communication in P2P communication mode,

wherein said detection report message comprises a first predefined threshold relating to a lower limit value at which a link satisfies a quality of service requirement and a second threshold relating to a condition in which an adjacent cell may be used as a candidate cell, and wherein said UE and said another UE transmit a detected candidate cell to said network system and said network system determines if a common candidate cell exists in said two candidate cell sets, and upon detection of a common candidate cell, said network system instructs said UE and said another UE to perform a handover.

15. (Original) The UE in claim 14, further comprising:
- a receiving unit, for receiving a cell handover command from said network system;
 - an establishing unit, for establishing a P2P connection with said another UE in said suitable cell.

16. (Currently Amended) A network system, comprising:

a receiving unit, for receiving a detection report message from any user equipment (UE) of two UEs, [[the]] said detection report message indicating that said UE detects there exists a suitable cell in [[the]] said adjacent cells of an active cell, and [[the]] a link performance of said suitable cell is a predefined value higher than that of said active cell;

a judging unit, for starting a judging procedure to decide whether said two UEs can simultaneously handover into said suitable cell to continue P2P (peer to peer) communication, wherein said judging unit is for judging whether [[the]] said link performance of another UE of said two UEs in said suitable cell can meet a requirement for communication quality,

wherein said detection report message comprises a first predefined threshold relating to a lower limit value at which a link satisfies a quality of service requirement and a second threshold relating to a condition in which an adjacent cell may be used as a candidate cell, and wherein said UE and said another UE transmit a detected candidate cell to said network system and said network system determines if a common candidate cell exists in said two candidate cell sets, and upon detection of a common candidate cell said network system instructs said UE and said another UE to perform a handover.

17. (Original) The network system in claim 16, further comprising:

an establishing unit, for establishing signaling link for said two UEs when said judging unit judges that the requirement for communication quality is met;

a sending unit, for sending a cell handover command to said two UEs so that said two UEs can establish P2P connection in said suitable cell.

18. (Previously Presented) The network system in claim 17, further comprising:

a detecting unit, for checking the link performance of said another UE in said active cell when said judging unit judges that the requirement for communication quality cannot be met,

said judging unit judging whether the link performance of said two UEs in said active cell can meet the requirement for communication quality, and

said sending unit sending a command for maintaining P2P communication to said two UEs so that said two UEs can continue P2P communication in said active cell when the link performance of said two UEs in said active cell both can meet the requirement for communication quality.

19. (Previously Presented) The network system in claim 17 wherein the sending unit is capable of sending a command to release the P2P connection in said active cell.

20. (Previously Presented) The network system in claim 19 wherein the sending unit is capable of sending a message for completing cell handover to said network system.